

135 Nuerland lacks the two raw materials that have played so
important a part in the manufacture of primitive tools: iron and
stone. Nuer have always been poor in iron objects. Till recently
411 they possessed very few iron spears, cherished as heirlooms, but
used instead the straightened horns of antelope and buck, ebony
wood, and the rib-bones of giraffe, all of which are still used to-day,
442 though almost entirely in dances (Fig. 11). Wooden hoes were
used for gardening, and are still sometimes so used to-day. Iron
301 bells (Fig. 4) are rare and highly prized even at the present time,
and in the old days iron rings and bracelets were important pieces
of property. Wooden bells and ivory and leather rings and brace-
325 lets took their place in common use. Nuer have no knowledge of
smelting and little of the blacksmith's art. I have never seen a
forge and, though there are certainly some blacksmiths, their art
is crude and may be regarded as a recent innovation, at any
rate in most parts of Nuerland. Spears bought from Arab mer-
chants are beaten out in the cold.

135 Nuerland also lacks any kind of hard stone. Indeed, outside
villages I have never seen a stone. They are sometimes brought
442 from neighbouring areas and employed as hammers, for smoothing
323 metal ornaments, for rubbing skins, and so on. Grinding grain seems
to have been a recent introduction. The grinder is made from
thornwood and the grindstone from baked marsh mud mixed
with finely pounded potsherds (Fig. 12). With clay, mud, and sand,
Nuer also make pots, grain-bins, pipes, toys, hearthstones, and
firescreens; construct the walls of byres and huts; and coat floors
and those parts of homesteads they wish to keep smooth and clean.

137 Nature, which denies them iron and stone, is niggardly in her
322 gift of wood. Large trees are rare. Thornwood and low brush-
wood provide timber for building, spear-shafts, harpoon-shafts,
clubs (Frontispiece and Plate VIII), pestles, neck-rests, baskets,
and winnowing trays. Probably no trees in Nuerland are suit-
able for carving and Nuer possess no wooden utensils. Even the
ebony they use for making spears is not found in their country.
Ambatch-trees grow in some parts of the swamp areas and from it
is made an object which serves as a parrying stick, tobacco pouch,
pillow, and seat (Plate XXIX). Byre and kraal fires are fed with
[372] dried dung, and wood fuel is only employed in the kitchen—
grasses and millet stalks sometimes being used as a substitute.
Grasses, millet stalks, and some plants are also used for various
purposes: rafters, windscreens, thatching, cord, basketwork, &c.
Gourds are cultivated for dairy utensils.

237 Lacking iron and stone Nuer thus make use of vegetable and
earthy materials instead. Animal products are also a valuable

134 sticky water-laden mud. The clayey plains are broken by occasional sandy ridges and knolls upon which the debris of years of occupation has accumulated. However, Nuer distinguish between the black soil, of such areas as Eastern Jikany country, which they call *mun* 134 *mi car* or *dök* and the more sandy soil, which is found, for example, 823 in parts of Lou country, and which they call *mun lita*. The black heavy clays are more suitable for cultivation of millet because they hold up rain water, but they are bad for cattle which in the rains have to struggle through the sticky mud and to eat the high coarse grasses which such soil nurtures rather than the sweeter short grasses which prevail on more sandy soils. Thus the Lou people say in favour of their country "Our cattle do not come back each day from grazing caked in mud but they return with clean hooves." On the other hand the more sandy parts of Lou country, e.g., near Muot Dit, do not hold up rain water which makes cultivation of millet difficult so that even a slight drought destroys the young plants, and often makes it necessary for the people to wander early and far from their villages in the dry season to obtain sufficient pasturage. There are no salt-licks in Nuerland.

132 [133] Surface water comes partly from direct rainfall over Nuerland and partly from the flooding of the principal rivers which traverse it and which derive most of their water from rainfall elsewhere. In an average year the rains commence in April and continue till the end of October. Towards the middle or end of April a few showers come down and the sky is overclouded. It is not till the end of May that the rains set in with a will. July and August are the months with heaviest rainfall and the weather is cool, even cold in the mornings and evenings and a south-westerly wind prevails. The sun is overcast during most of the day. Showers become lighter and less frequent in October and by the middle of November have ceased altogether. In November the north wind begins to blow and it blows consistently down the valley of the Nile from the Mediterranean to the Plateau of the Great Lakes till the approach of the next rains. The weather becomes warmer and warmer and from January till March is a great trial to Europeans.